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# FOREST TYPE CLASSIFICATION

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# COMMERCIAL FOREST LAND CLASSES AND SYMBOLS

## Timberland Types and Symbols

Types will be determined upon the basis of predominant species as indicated by cubic volume for sawtimber and poletimber stands, and number of trees for seedling and sapling stands.

Where none of the indicated species comprises 50 percent or more of a given stand, the stand should be typed on the basis of plurality of cubic volume or number of trees.

| Type Symbol | Local Type Name |
|---|---|
| D | Douglas-fir |
| P | Ponderosa pine |
| H | Western hemlock |
| S | Sitka spruce |
| C | Cedars |
| FM | True fir-mountain hemlock |
| WL | Western larch |
| WF | White fir |
| W | White pines |
| LP | Lodgepole pine |
| HD | Hardwoods |

## Stand-Size Classes and Symbols

### Sawtimber Stands

Minimum net volumes for sawtimber are: For western Oregon 4,650 board-feet, Scribner rule, in any type except pine and hardwoods, and 1,375 board-feet, Scribner rule, in any pine or hardwood type: for eastern Oregon 1,375 board-feet, Scribner rule, in all types.

Plurality of cubic-foot volume (or basal area) by size classes determines whether a stand is large or small sawtimber.

## Poletimber Stands

Stands failing to meet the sawtimber-stand specification, but at least 10 percent stocked with poletimber and larger (5.0 inches d.b.h. and larger) trees and with at least half the minimum stocking in poletimber trees.

Explanation: The last clause in the definition prevents stands that are 10 percent or more stocked with sawtimber and poletimber trees, but with insufficient board-foot volume to qualify as sawtimber stands, and bearing few or no poletimber trees, from being classed as poletimber stands. Such areas would be classes nonstocked or seedlings and saplings.

## Seedling and sapling Stands

Stands not qualifying as either sawtimber or poletimber stands, but having at least 10 percent stocking of trees of commercial species and with at least half the minimum stocking in seedling and sapling trees.

## Dual Stands

Stands qualifying in any dual combination of sawtimber, poletimber, and seedling and saplings. May include stands with a wide range of diameters typical of many-aged stands.

## Nonstocked Areas

Areas not qualifying as sawtimber, poletimber, or seedling and sapling stands.

Explanation: May include areas with over 10 percent stocking; for example, stands more than 10 percent stocked with sawtimber trees but

with insufficient board-foot volume to qualify as sawtimber stands.

| Symbol | Stand-Size Class | Description |
|---|---|---|
| 1 | Seedling & saplings | 0 to 5 inches dbh |
| 2 | Poletimber | 5 to 11" dbh |
| 3 | Small sawtimber | 11 to 21" dbh mainly young growth |
| 4 | Large sawtimber | 21" and larger dbh mainly old growth (except for D4 which is chiefly so-called "red fir") |
| 5 | Large old-growth Doug.-fir sawtbr. | 21" and larger dbh so-called "yellow fir" usually over 300 years old of such quality to command a premium price even in a depressed market. |

## Condition Classes and Symbols

| Symbol | Condition Class |
|---|---|
| X | Recent clear-cut area, nonstocked(cut over during last 5 years). |
| XO | Old clear-cut area, nonstocked (cut over prior to last 5 years). |
| F | Area deforested by fire, nonstocked. |
| I | Area deforested by insects, nonstocked. |
| WT | Area deforested by wind, nonstocked. |

Designate the condition class symbol as the numerator of a fraction for areas deforested by fire, insects, or wind which supported timber stands and which are presently merchantable. The denominator would indicate the type class-

ification of the killed trees.

Stands partially killed would be classified for the surviving trees and mortality by cause would be expressed by the condition class symbol and the number of killed trees per acre.

## Forest Type Symbol Prefixes

| Prefix Symbol | Description |
|---|---|
| R | Indicates residual stand after partial cutting. |
| X | Indicates a restocked clear-cut area. |
| PL | Indicates a planted area |
| S | Indicates a seeded area resulting from manual or aerial seeding. |

## Density of Stocking Classes and Symbols

Density of stocking is determined from stocked-quadrat counts of number of stems for the seedling and sapling stand-size class not visible on aerial photos. For those visible on aerial photos and other stand-size classes, density is based on degree of crown closure where aerial photos are used. Where aerial photos are not available, density is based on stocked-quadrat counts of stems for poletimber, and on cubic-foot volume (or basal area) per acre for saw-timber stands. Density is indicated for all forest stands. Where density is less than 10 percent, the area is classed as nonstocked.

| Symbol | Density | Description |
|---|---|---|
| - | Poorly stocked | 10 to 40 percent |
| = | Medium stocked | 40 to 70 percent |
| ≡ | Well stocked | 70 to 100 percent |

## Species Composition and Symbols

Species composition is indicated by standard symbols (lower-case letters) in every commercial forest type unit according to the following rules: No species will be recognized unless it comprises at least 20 percent of the type unit by cubic-foot volume (or basal area). Symbols will be listed in decreasing order of abundance according to cubic-foot volume (or basal area). Ordinarily not more than 3 species will be recognized in any type unit. Whenever the main type symbol clearly indicated the specific key species, this species symbol will be omitted. For cedars, spruces, true fir-mountain hemlock types, the main type symbol does not indicate the specific key species and it will be necessary to list all recognized species in order to indicate composition and order of importance.

These symbols for the type classification are similar but not analogous to those used to show species on plot cards, volume summaries, etc.

| Symbol | Common and Scientific Name |
|---|---|
| | Conifers |
| d | Douglas-fir (pseudotsuga menziesii) |
| | Spruces: |
| es | Engelmann spruce (Picea engelmanni) |
| s | Sitka spruce (P. sitchensis) |

| Symbol | Common and Scientific Name |
|---|---|
| | Hemlocks: |
| mh | Mountain hemlock (Tsuga Martensiana) |
| h | Western hemlock (T. heterophylla) |
| | Cedars: |
| yc | Alaska-cedar (Chamaecyparis nootkatensis) |
| ic | Incense-cedar (Libocedrus decurrens) |
| pc | Port-Orford-cedar (Chamaecyparis lawsoniana) |
| c | Western red cedar (Thuje plicata) |
| | Pines: |
| lp | (Lodgepole pine (Pinus contorta) |
| | (Shore pine (P. contorta) |
| | (Knobcone pine (P. attenuata) |
| p | (Ponderosa pine (P. ponderosa) |
| | (Jeffrey pine (P. jeffrevi) |
| sp | Sugar pine (P. lambertians) |
| w | (Western white pine (P. monticola) |
| | (Whitebark pine (P. albicaulis) |
| | True firs: |
| af | Subalpine fir (Abies lasiocarpa) |
| nf | Noble fir (A. procera) |
| a | Pacific silver fir (A. amabilis) |
| arf | Shasta red fir (A. magnifica var. shastensis) |
| wf | (White fir (A. concolor) |
| | (Grand fir (A. grandis) |
| | Larches: |
| wl | (Western larch (Larix occidentalis) |
| | (Alpine larch (L. lyallii) |
| r | Redwood (Sequoia sempervirens) |

| Symbol | Common and Scientific Name |
|---|---|
| j | Western juniper (*Juniperus occidentalis*) |
|  | Hardwoods |
| m | Bigleaf maple (*Acer macrophyllum*) |
|  | Cottonwoods: |
| bc | (Black cottonwood (*Populus trichocaroa*<br>(Quaking aspen (*P. tremuloides*) |
| my | California lurel (*Umbellularia californics*) |
| ch | Golden chinquapin (*Castanopsis chrysophylla*) |
|  | Oaks: |
| co | California black oak (*Quercus kelloggii*) |
| clo | Canyon live oak (*Q. chrysolepis*) |
| oo | Oregon white oak (*Q. garryana*) |
| oa | Oregon ash (*Frazinus oregana*) |
| mad | Pacific madrone (*Arbutus menziesii*) |
| ra | Red alder (*alnus rubra*) |
| to | Tonoak (*Lithocarpus densiflorus*) |
|  | Birches: |
| b | (Western paper birch (*Betula papyrifera* var. *commutata*)<br>(Northwestern paper birch (*B. papyrifera var. subcordata*) |

## Stand Age

Stand age is indicated by 10-year-age classes for even-aged stands from 10 years to 160 years in age inclusive.

The year of planting or seeding should be recorded for plantations with established stands less than five years in age.

Two-story stands with an even-aged understory and overstory to be so classified should have a difference in age between the overstory and understory of at least 30 years.

Indicate the range in age for many-aged stands consisting of young sawtimber, poletimber and seedlings and saplings both for single story and dual stands.

## NONCOMMERCIAL FOREST AND NONFOREST CLASSES AND SYMBOLS

### Noncommercial Forest Types

Non-commercial forest lands should be classified as shown under the following broad categories:

Non-commercial forest land incapable of sustaining 20 cubic feet of growth per year and productive forest land physically inaccessible shall be classified using the following symbols.

| Symbol | Description |
|---|---|
| J | Juniper |
| OM | Oak-madrone (scrub stands) |
| SA | Subalpine (nonmerchantable stands above commercial forest zone) |
| NR | Non-commercial rocky |
| LS | Low site |
| AD. loc. | Adverse location (stands of timber near impossible to harvest because of physical location. |

### Nonforest Types

| Symbol | Description |
|---|---|
| G | Natural grassland |
| B | Natural brushland |
| O | Nonvegetative land (including barrens and cities) |
| A | Agricultural (cultivated or stump pasture) |

### Birth Date

Birth Date is indicated by 10 year age classes for even-aged stands from 10 years to 160 years in age, inclusive. Even-aged shall mean any stand consisting of 50 percent or more of the stocking (in basal area or seedling-sapling number) which is within a 10-year spread on either side of an average age.

The year of planting or seeding should be recorded for plantations with established stands less than five years in age. Stands identified thusly on the last mapping project should not be changed.

Two story stands with an even-aged understory and over story to be so classified should have a difference in birth date between the overstory and understory of at least 30 years.

Two storied stands will be typed indicating a two storied condition in the following manner:

EX: $\frac{\text{D4 = 1880}}{\text{DI = 1960}}$ · Formerly $\frac{\text{D4 = 90}}{\text{D1 = 10}}$

Many aged stands will be indicated by showing the range in birthdate for stands consisting of young sawtimber, poletimber, and seedlings and saplings both for single story and dual stands.

## Special Condition Classes

The following symbols will be used to designate special conditions created in the forest by nature or man.

| Symbol | Special Condition |
|---|---|
| N 68 | A naturally restocked area less than 5 years old. |
| PL 66 | An area successfully planted in 1966. |
| S 66 | An area successfully seeded in 1966. |
| X | Recent clear cut area, nonstocked (cut over during last 5 years). |
| XO | Old clear cut area, nonstocked (cut over prior to last 5 years). |
| F | Area deforested by fire, nonstocked |
| I | Area deforested by insects, nonstocked |
| WT | Area deforested by wind, nonstocked |

Designate the condition class symbol as the numerator of a fraction for areas deforested by fire, insects, or wind which support timber stands and which are presently merchantable.

The denominator would indicate the type classification of the killed trees.

EXAMPLE: $\frac{\text{WT}}{\text{D3 = 1910}}$

## Multiple Use Areas

Commercial forest land where cutting practices are modified to protect or enhance other land values will be classified using the following boundary line designation and adjacent abbreviations.

| *Abbreviation | *Definition |
|---|---|
| Sc. A. | Scenic Corridor |
| Cr | Critical Watershed |
| Stream Pro. | Streamside Corridor |
| Wildlife A. | Wildlife Area |
| Rec. A. | Recreation Area |
| Mine | Mineral Location |
| Buff | Buffer Zone |

| *Boundary Line | |
|---|---|
| ///////////// <br>(Interior of type) | Boundary line of area with restricted cutting practices. |

## Intensive Forest Management Classifications

Intensive forest management classifications are those kinds of intensive silvicultural

treatments that have been applied, such as, thinning or mortality-salvage logging.

1. Forest types that have been given special treatment will be designated as follows:

| *Symbol | *Condition Class |
|---|---|
| MS 68 | Mortality salvage logged 1968. |
| CT 68 | Commercially thinned 1968. |
| PCT 68 | Precommercially thinned 1968. |
| Prep. C 68 | Preparatory cut 1968 (first cut in a shelterwood system of cutting) |
| Ren C-68 | Regeneration cut 1968 |
| Fert. 69 | Fertilized in 1969 |
| BR 69 | Brush Release |
| GR 69 | Grass Release |
| Boundary Line | |
| -------------- | To be used where only a portion of a forest type island has been treated. |

## Commercial Forest Land Proposed for Withdrawal From the Commercial Timber Production Base Acreage Through Statute or Administrative Regulation.

| Abbreviation | Definition |
|---|---|
| Stream Pro. | Stream Protection |
| Sc. | Scenic |
| Wil. | Wildlife |
| Wa. | Watershed |
| Mine | Mineral |
| Rec. | Recreation |
| Buf. | Buffer |

| | |
|---|---|
| Boundary Line | Indicates boundary of proposed withdrawal areas including the non-commercial forest land in multiple-use categories. |

### Roads, Etc.

| Symbol | Definition |
|---|---|
| ══════ | Hard Surfaced Road |
| =-=-=-= | Dirt Road |
| =x=x=x | Jeep Road |
| ------- | Trail |
| —+—+—+— | Railroad |
| )══( | Bridge |
| →———← | Foot Bridge |
| )==( | Tunnel |
| ═╢╟═ | Road Obstruction |
| ═╪═ | Road Gate |
| ▨▨▨ | Dam |
| ⌂ | Shelter |

| Symbol | Definition |
|---|---|
| ✛ | Identified Existent Corner |
| ⌖ | Identified Obliterated Corner |
| - - - - - - | Projected Section Line |
| ------ | County Boundary Line |
| —··— | F.M.A. Boundary Line |
| —— —— | Master Unit Boundary Line |
| • | Photo Center |
| △ | Triangulation Station |
| ⚒ | Mine Or Quarry |
| ⌒ | Mill |
| ◫ | Building |
| ⊗ | Lookout |
| ⌂ | Ranger Station |
| ≛ | Marsh |
| △ | Forest Camp |
| ⌂ | Guard Station |
| ⊡ | Permanent Sample Plot |
| •----•----• | Single Power Line |
| •====•====• | Double Power Line |

Note: Indicate on the map or aerial photograph the definition of the road, gate, etc. you are identifying. Show roads by a solid line. Cross check road classes with district transportation map.

## USE OF TYPE SYMBOLS WITH EXAMPLES

The sequence for listing symbols to designate any type unit will be to indicate the following factors in sequence: Local type, stand size class, species composition, density of

stocking and age. Some examples are:

| Symbols | Description |
|---|---|
| D5, h | Douglas-fir, large sawtimber, mainly "yellow fir", but with more than 20-percent of the cubic-foot volume in western hemlock, medium stocked, over 160 years in age. |
| FM4, mh $\overset{-}{=}$ 140 | True fir-mountain hemlock, large sawtimber, mainly mountain hemlock, with no other species making up 20 percent or more of the cubic-foot volume of the stand, well stocked, 140 years in age. |
| C4, c, d $\overset{-}{-}$ | Cedar, large sawtimber, comprised of a plurality of cubic-foot volume in redcedar and at least 20 percent Douglas-fir, medium stocked, over 160 years in age. |
| D4 $\overset{-}{=}$ | Douglas-fir, large sawtimber, mainly "red fir" well stocked, no other species, making up 20 percent or more of cubic-foot volume of stand, over 160 years in age. |
| HD2, oo, oa $\overset{-}{=}$ 90 | Hardwood poletimber, plurality of cubic-foot volume in Oregon white oak, but with more than 20 percent of the volume Oregon |

| | |
|---|---|
| | ash, well stocked, 90 years in age. |
| D1, ra, h ≡ 10 | Douglas-fir seedling and sapling stand predominantly Douglas-fir but with more than 20 percent each of red alder and western hemlock, with the western hemlock least abundant, well stocked 10 years old. |
| RP4 - | Residual (partially cut) ponderosa pine, large sawtimber, with no other species making up 20 percent or more of the cubic-foot volume of the stand, poorly stocked. |
| RP3, d = | Residual (partially cut) ponderosa pine, small sawtimber, mddium stocked, having a plurality of cubic-foot volume in ponderosa pine but with more than 20 percent of the volume in Douglas-fir, medium stocked. |
| PL D1 = 10 | A planted stand of seedling and sapling Douglas-fir: medium stocked, 10 years old. |
| $\frac{F}{D4 = 120}$ | A fire killed stand of merchantable Douglas-fir, large sawtimber, medium stocked, 120 years in age. |
| D4 = 140<br>WT 3/A | Douglas-fir, large sawtimber medium stocked, 140 years in age with three windthrown trees per acre. |

| | |
|---|---|
| $\frac{\text{D5 -}}{\text{D3 = 70}}$ | A two-story Douglas-fir stand. Upperstory is large sawtimber, over 300 years in age, poorly stocked. The understory is small sawtimber, medium stocked, 70 years in age. |
| $\frac{\text{D4 -}}{\text{D3, IC, P=20-140}}$ | A dual stand of Douglas-fir with an overstory of large sawtimber, poorly stocked and understory of Douglas-fir poletimber in combination with at least 20 percent of incense cedar and ponderosa pine, medium stocked varying in age from 20 years to 140 years. |
| OM-LS | Indicates oak-madrone forest type on low site non-commercial forest land |
| D5 = Ad. loc. | Indicates old growth Douglas fir physically inaccessible and therefore non-commercial |